

The Supervisor Phantom System is produced by Minicom Advanced Systems Limited, and includes new features that are described later in this User's Guide, Version 10400.

Technical precautions

This equipment generates radio frequency energy and if not installed in accordance with the manufacturer's instructions, may cause radio frequency interference.

This equipment complies with Part 15; Subpart J of the FCC rules for a Class A computing device. This equipment also complies with the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications. These above rules are designed to provide reasonable protection against such interference when operating the equipment in a commercial environment. If operation of this equipment in a residential area causes radio frequency interference, the user, and not Minicom Advanced Systems Limited, will be responsible.

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Chapter 1: Introduction

The **Supervisor Phantom** is a keyboard, video, and mouse (KVM) distribution switch. With the **Supervisor Phantom**, you can connect up to 32 computers in one system.

The Supervisor Phantom Versions

The **Supervisor Phantom** comes in two versions. The internal **PCI Card** version, and the external **Box** version.

This User's Guide describes the installation and operation of both versions.

Icons

Chapters or paragraphs that apply to one particular version, are clearly marked throughout the Guide with one of the following icons:



For the **Card** version -



For the **Box** version -

 The two versions of the Supervisor Phantom are fully compatible with each other.

The system

The **Supervisor Phantom** system is linked in a daisy-chain pattern by 100 Base-T4 CAT5 FTP cables.

The **Supervisor Phantom** is compatible with:

- IBM compatible AT, PS, or Mixed Type computers. Silicon Graphics or Unix computers.
- VGA, SVGA, or XGA video standards.
- All major computer and server manufacturers.
- IntelliMouse™, Logitech WheelMouse and IBM Trackpoint.
- Microsoft, DOS, Windows 3.1, 95, 98 and 2000. Novel, UNIX, Linux, SGI and BeOS.

The **Supervisor Phantom** gives you:

- Control and monitoring capabilities over 31 **Slave** computers from one **Manager** unit.
- The option to connect a Keyboard, Video and Mouse – referred to as a Local Workstation - to any **Slave** computer.
- A transmission range of up to 110m/360ft.
- Matrix configurations of up to 6 x 31.

Chapter 2: Overview

The **Supervisor Phantom** system consists of:

- A **Manager** unit.
- A **Slave** unit for each **Slave** computer.
- Cabling - described in chapter 5.

OSD Technology

The **Supervisor Phantom** superimposes a menu on the **Manager** position computer screen. This On-Screen-Display (OSD) consists of three sections. From the OSD, you activate various functions. These functions are discussed in chapters 6 and 7.

The Local Workstation Option

A **Slave** computer with keyboard, video, and mouse (KVM) attached is called a **Slave** unit with a Local Workstation (LWS).

The **Phantom Manager** and the local user can both work on the **Slave** computer with a one second Access-Timeout. This means that when one of them stops working for one second the other can take control.

Supervisor Phantom configuration

Figures 2-1 and 2-2 below, illustrate the **Supervisor Phantom** configuration for the **Card** and **Box** versions respectively.

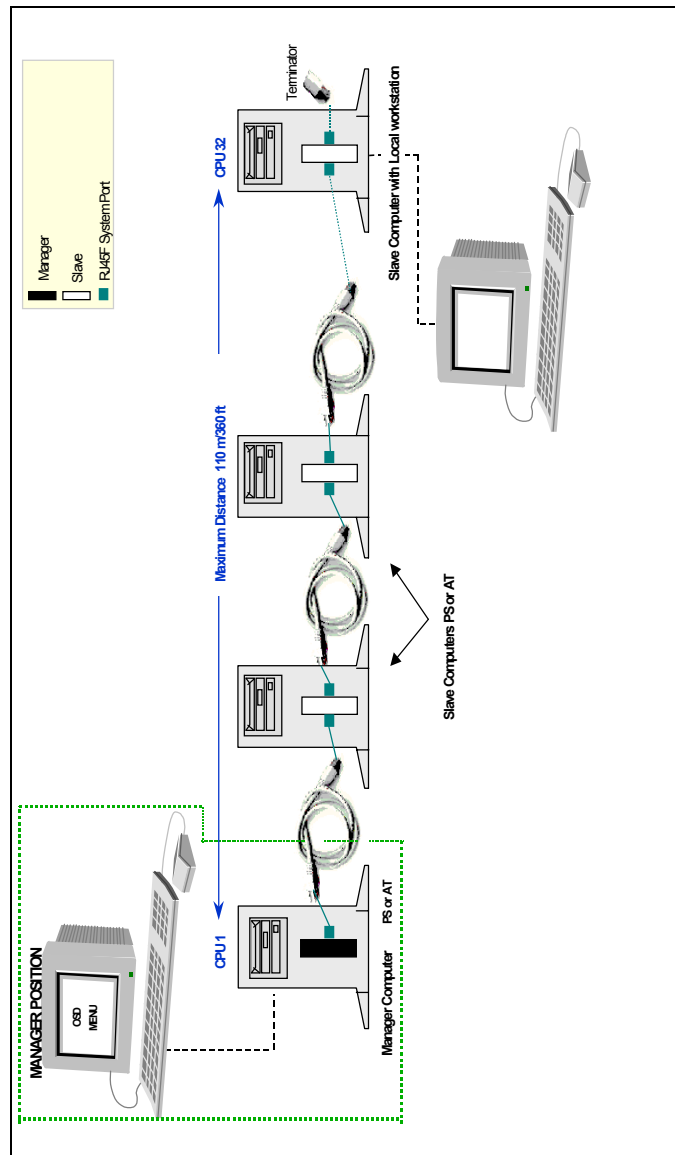


Figure 2-1 The Card Version Configuration

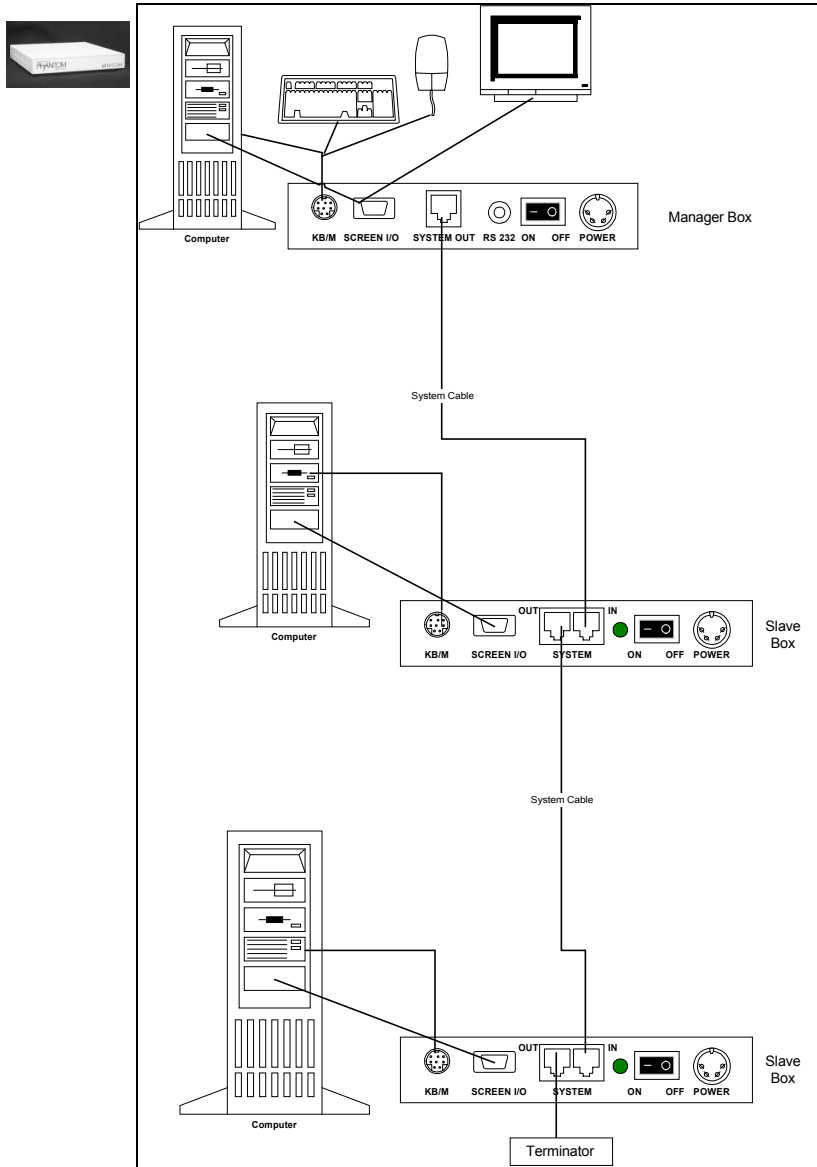


Figure 2-2 The Box Version Configuration

Chapter 3: The Supervisor Phantom units

Both versions of the **Supervisor Phantom** incorporate the same technology.



The Card version

There are two different types of PCI cards. One for the **Manager**, and one for the **Slave**.

Figure 3-1, illustrates the **Manager** PCI card.

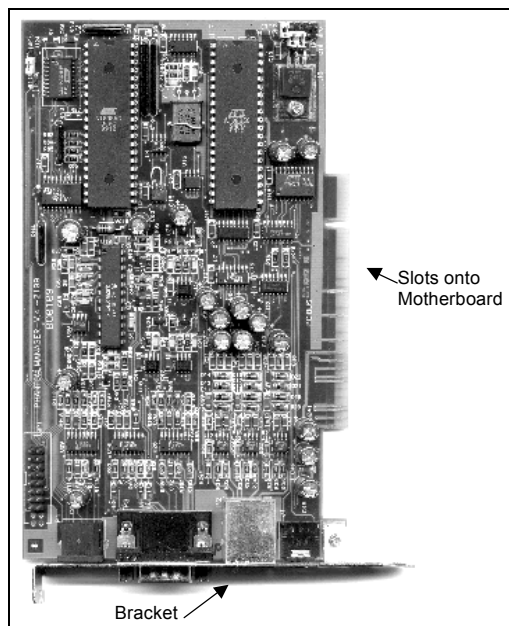


Figure 3-1 The Manager card

Figure 3-2 illustrates the **Slave** PCI card.

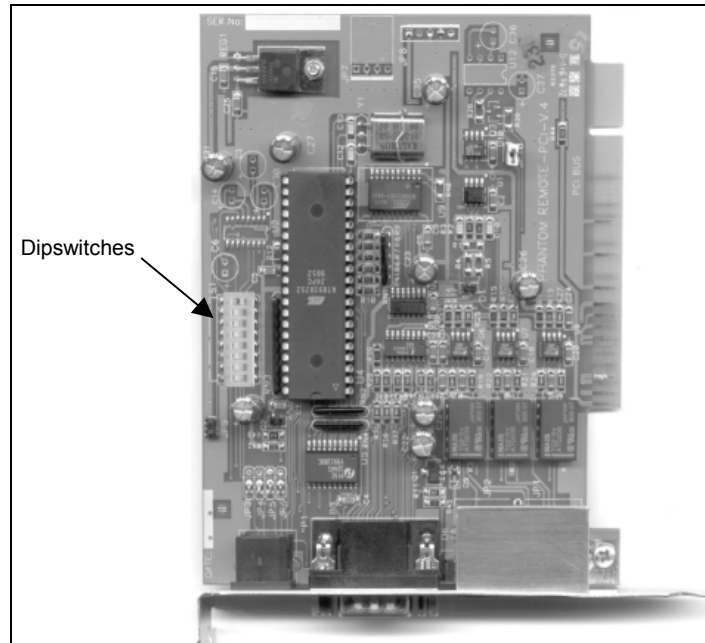


Figure 3-2 The Slave card



The Box Version

Figure 3-3 illustrates the front view of the **Manager** box.



Figure 3-3 The Manager box

Figure 3-4 illustrates the front view of the **Slave** box.



Figure 3-4 The Slave box

Setting the Slave unit's ID Number

You set the **Slave unit's** ID Number by adjusting the Dipswitches. The Dipswitches of the **Box** version are located on the underside of the box. The Dipswitches of the **Card** version are located as illustrated in Figure 3-2 on page 3-2.

Set the ID Number on each Unit using Dipswitches 1 to 6. See Figure 3-5.

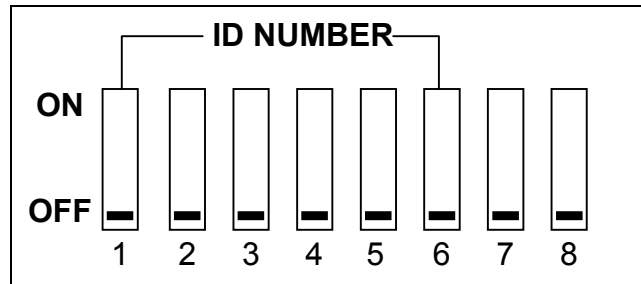


Figure 3-5 Setting the ID Number

The ID Numbers are set using binary numbers.

OFF = 0, **ON** = 1.

See the binary table on page 3-5 below.

Caution! Do not set the identical ID Number for two units.

Dipswitches 7 and 8 are inactive and should always be set to the **OFF** position.

The Manager unit's ID Number

The **Manager** unit comes preset to ID Number 1, and appears listed in the OSD window as:

1 PHANTOM MANAGER

Slave No. ID Numbers

	1	2	3	4	5	6	7	8
2	0	1	0	0	0	0	0	0
3	1	1	0	0	0	0	0	0
4	0	0	1	0	0	0	0	0
5	1	0	1	0	0	0	0	0
6	0	1	1	0	0	0	0	0
7	1	1	1	0	0	0	0	0
8	0	0	0	1	0	0	0	0
9	1	0	0	1	0	0	0	0
10	0	1	0	1	0	0	0	0
11	1	1	0	1	0	0	0	0
12	0	0	1	1	0	0	0	0
13	1	0	1	1	0	0	0	0
14	0	1	1	1	0	0	0	0
15	1	1	1	1	0	0	0	0
16	0	0	0	0	1	0	0	0
17	1	0	0	0	1	0	0	0
18	0	1	0	0	1	0	0	0
19	1	1	0	0	1	0	0	0
20	0	0	1	0	1	0	0	0
21	1	0	1	0	1	0	0	0
22	0	1	1	0	1	0	0	0
23	1	1	1	0	1	0	0	0
24	0	0	0	1	1	0	0	0
25	1	0	0	1	1	0	0	0
26	0	1	0	1	1	0	0	0
27	1	1	0	1	1	0	0	0
28	0	0	1	1	1	0	0	0
29	1	0	1	1	1	0	0	0
30	0	1	1	1	1	0	0	0
31	1	1	1	1	1	0	0	0
32	0	0	0	0	0	1	0	0

Chapter 4: Installing the Card version of the Supervisor Phantom



Prior to installing the **Card**:

- Switch off all computers.
- Disconnect all power cords.
- In order to avoid electrostatic damage to the **Card**; discharge any static electricity you may be carrying. You can do this by touching any grounded object.

To install the **Supervisor Phantom Card**:

1. Remove computer covers.
2. Insert the **Manager** unit into any available PCI slot of one computer.
3. Insert the **Slave** units into any available PCI slot of the other computers.
4. Replace computer covers.

Chapter 5: Connecting the System

Before connecting the **Supervisor Phantom** system:

- Switch off all computers.
- Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.
- Ensure that the total cable length between the **Manager unit** and the last **Slave unit**, does not exceed 110 m / 360 ft.

Connecting the Supervisor Phantom Manager Unit



Figure 5-1 below illustrates the ports on the **Card version Manager unit**.

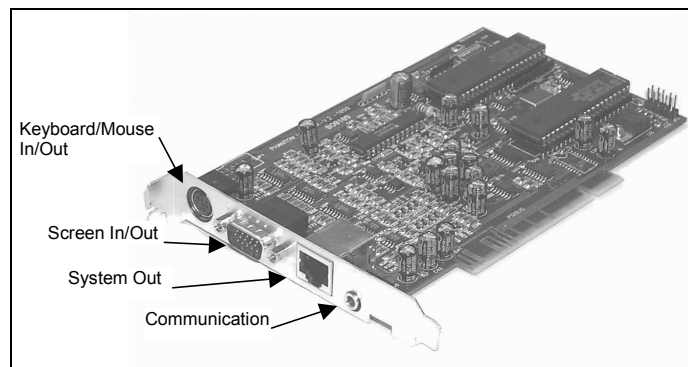


Figure 5-1 The Card version Manager unit



Figure 5-2 illustrates the ports on the **Box** version **Manager unit**.

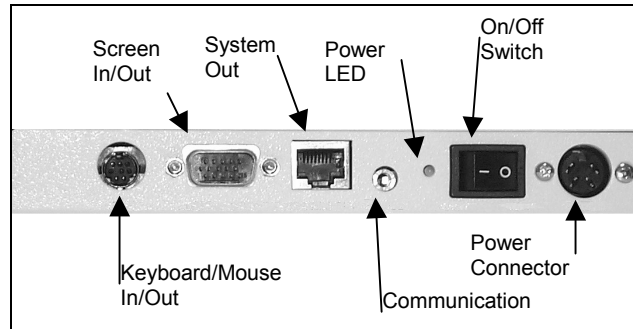


Figure 5-2 The Box version Manager unit

Both versions of the **Manager** Unit use the following four cables:

- System cable.
- Communication cable.
- Keyboard/Mouse In/Out cable for PS type CPUs.
- Screen In/Out cable.

The latter two cables are longer for the **Box** version than for the **Card** version.



Only the **Box** Version of the **Manager unit** uses the following:

- Power Adapter.
- Power Cord.

Connecting to an AT type computer

There are special Adapter cables to connect the **Supervisor Phantom Manager** to an AT type CPU. These Adapter cables are in addition to the above mentioned cables. See page 5-15 for further details.

Connecting the System cable

The System cable consists of a single 4-pair 100 Base-T4 CAT5 FTP (Foiled Twisted Pair) cable with RJ-45M connectors attached at each end. Figure 5-3 illustrates the FTP cable.

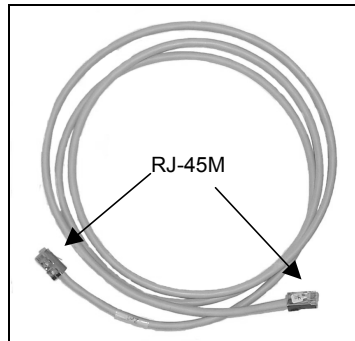


Figure 5-3 The FTP System Cable

Figure 5-4 illustrates the RJ-45M pinout and wire diagram.

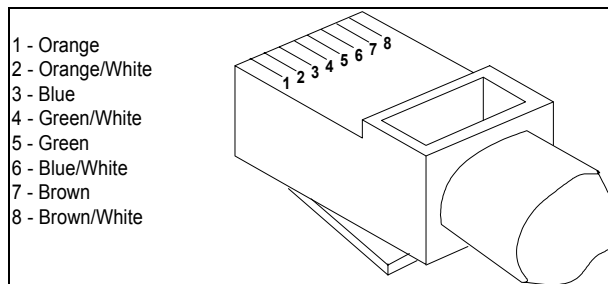


Figure 5-4 The RJ-45M Connector

To connect the System cable to the **Phantom Manager**:

1. Connect one of the System Cable's RJ45M connectors to the **Phantom Manager's** System Out port.
2. Connect the other System Cable's RJ45M connector to a **Phantom Slave's** System In port.

Keyboard/Mouse In/Out cable for PS type computers

Figure 5-5 below illustrates the Keyboard/Mouse In/Out cable.

To connect the Keyboard/Mouse In/Out cable to the **Phantom Manager**:

1. Connect the cable's MiniDIN8M connector to the **Manager's** Keyboard/Mouse In/Out port.
2. Connect the MiniDIN6F Mouse Out connector to the mouse's MiniDIN6M connector.
3. Connect the MiniDIN6M Mouse In connector to the mouse port on the CPU's rear panel.
4. Connect the MiniDIN6F Keyboard Out connector to the keyboard's MiniDIN6M connector.
5. Connect the MiniDIN6M Keyboard In connector to the Keyboard port on the CPU's rear panel.

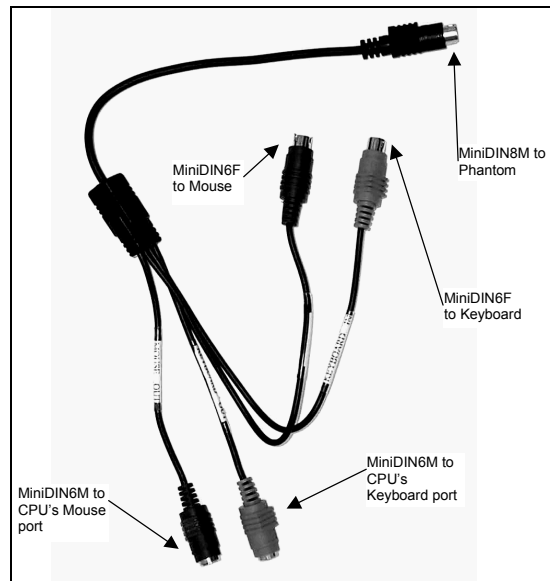


Figure 5-5 The Manager K/M In/Out Cable for PS

Connecting the Screen In/Out cable

Figure 5-6 below illustrates the Screen In/Out cable.

To connect the Screen In/Out cable to the **Phantom Manager**:

1. Connect the cable's connector #(1) to the **Manager's** Screen In/Out port.
2. Connect the monitor's Screen cable to the cable's connector #(2).
3. Connect the cable's connector #(3) to the Screen port on the CPU's rear panel.

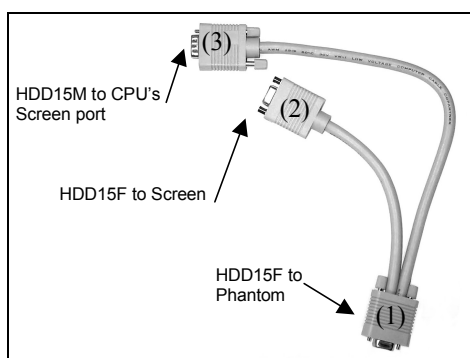


Figure 5-6 The Manager Screen In/Out Cable

Connecting the Supervisor Phantom Slave Unit

The **Supervisor Phantom Slave unit** is compatible with the following computer types:

- AT.
- PS.
- Mixed Type, combining PS and AT computers in the same system.

Local Workstation

You have the option to connect a Local Workstation to one or all of the **Slave** computers. You can then work with the **Slave** computer locally.

Connecting the Slave Unit

Figure 5-7 illustrates the ports on the **Card** version **Slave unit**.

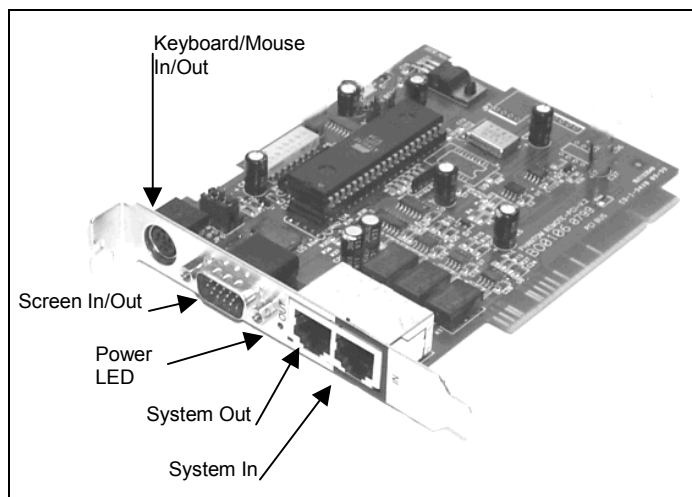


Figure 5-7 The Card version Slave unit



Figure 5-8 illustrates the ports on the **Box** version of the **Slave** unit.

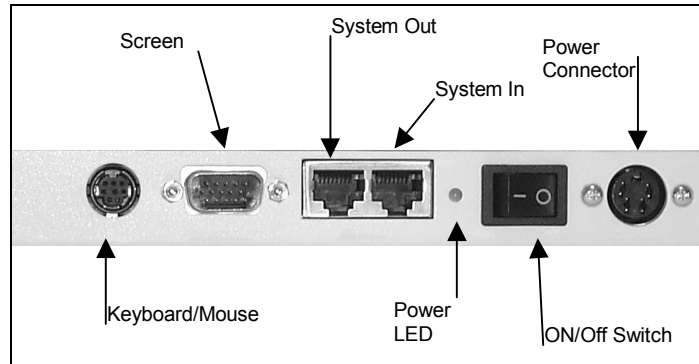


Figure 5-8 The **Box** version **Slave** unit

Both versions of the **Phantom Slave** use the following 3 cables:

- System cable.
- Keyboard/Mouse cable for PS.
- Screen cable.

The latter two cables are longer for the **Box** version than for the **Card** version.



Only the **Box** Version of the **Slave** unit uses the following:

- Power Adapter.
- Power Cord.

Keyboard/Mouse cable for PS

Figure 5-9 illustrates the Keyboard/Mouse cable for PS.

To connect the Keyboard/Mouse cable for PS type computers to the **Phantom Slave**:

1. Connect the cable's MiniDin8M connector to the **Slave's** MiniDin8F port.
2. Connect the MiniDin6M mouse connector to the Mouse port on the CPU's rear panel.
3. Connect the MiniDin6M Keyboard connector to the Keyboard port on the CPU's rear panel.

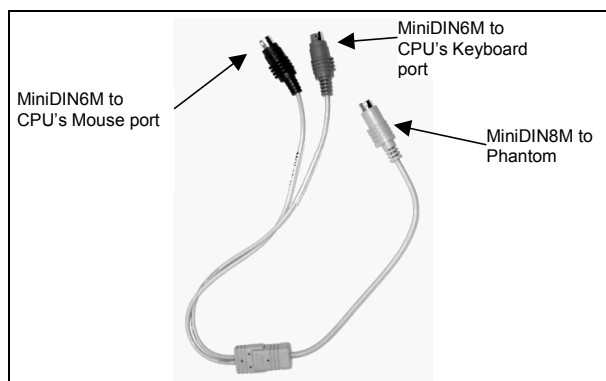


Figure 5-9 The Slave KB/Mouse Cable for PS

Connecting the Slave Screen cable

Figure 5-10 illustrates the Screen cable.

To connect the Screen cable to the **Phantom Slave**:

1. Connect the cable's HDD15F connector to the **Slave's** HDD15M Screen port.
2. Connect the cable's HDD15M connector to the HDD15F screen port on the CPU's rear panel.

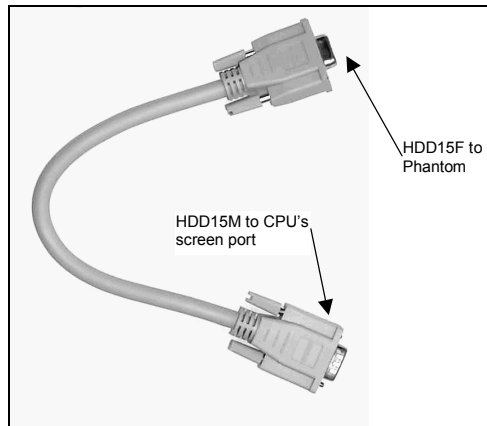


Figure 5-10 The Slave Screen cable

Connecting the System Cable

The System cable links the **Supervisor Phantom Manager** and **Slaves** in a daisy-chain pattern, see Figure 5-11.

To connect the System cable to each **Slave** unit:

1. Connect one RJ45M connector to the first **Slave's** RJ45F System Out port.
2. Connect the other RJ45M connector to the next **Slave's** RJ45F System In port.

Connect all the **Slaves** in this way.

Connect a Terminator to the RJ45F System Out port of the last **Slave** in the series.

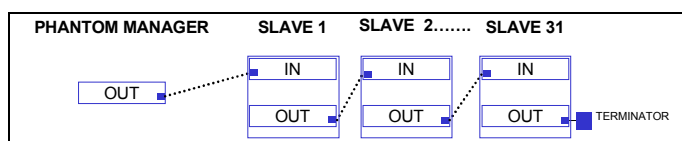


Figure 5-11 The System cable connections

You can also connect each unit to the unit that is physically closest to it. For example, you can connect the **Supervisor Phantom Manager** to **Slave #4**, and **Slave #4** to **Slave #2**.

Before installing the System cable, we recommend that you work out how to connect all the units using the shortest possible length of cable. A shorter cable length increases video quality, and reduces noise.

Connecting the Slave Unit with a Local Workstation

When a **Phantom Slave** has a Local Workstation attached, you connect the following cables to that **Slave unit**:

Both versions of the **Phantom Slave** use the following 3 cables:

- System cable.
- Keyboard/Mouse In/Out cable for PS.
- Screen In/Out cable.

The latter two cables are longer for the **Box** version than for the **Card** version.



Only the **Box Version** of the **Slave** unit uses the following:

- Power Adapter.
- Power Cord.

Connecting the System cable

To connect the System cable, see page 5-11.

Connecting the Keyboard/Mouse In/Out Cable for PS type computers

Figure 5-12 illustrates the Keyboard/Mouse In/Out cable.

To connect the Keyboard/Mouse In/Out cable to the **Phantom Slave**:

1. Connect the cable's MiniDin8M connector to the **Slave's** MiniDin8F port.
2. Connect the MiniDIN6F Mouse Out connector to the mouse's MiniDIN6M connector.
3. Connect the MiniDIN6M Mouse In connector to the mouse port on the CPU's rear panel.
4. Connect the MiniDIN6F Keyboard Out connector to the keyboard's MiniDIN6M connector.
5. Connect the MiniDIN6M Keyboard In connector to the Keyboard port on the CPU's rear panel.

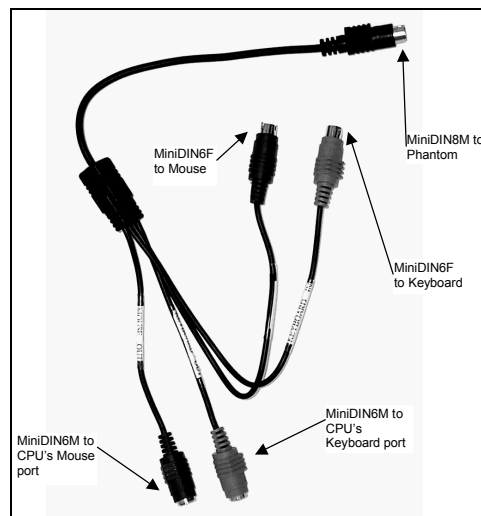


Figure 5-12 The Slave LWS K/M In/Out Cable

Connecting the Slave Screen In/Out cable

Figure 5-13 illustrates the **Slave** Screen In/Out cable

To Connect the Screen In/Out cable to the **Phantom Slave**:

1. Connect the cable's connector #(1) – see Figure 5-13 below - to the **Slave Unit's** Screen In/Out port.
2. Connect the monitor's screen cable to the cable's connector #(2).
3. Connect the cable's connector #(3) to the screen port on the CPU's rear panel.

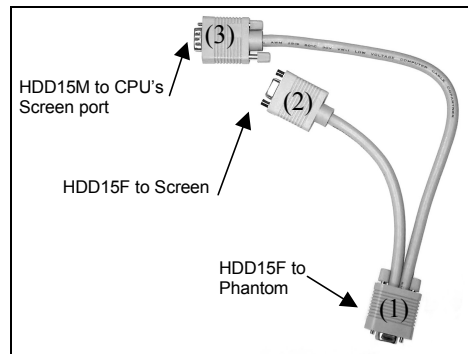


Figure 5-13 The Slave LWS Screen In/Out cable

Connecting the Supervisor Phantom Units to an AT type computer

You can connect all the units of both the **Card** and **Box** versions of the **Supervisor Phantom**, to an AT type computer.

There are two adapter cables for the **Phantom Slave**, and three for the **Manager** or **Slave** with a LWS.

Note! You must always use a PS type mouse.

Adapter cables for the Slave Unit

The two cables are:

- Mouse adapter cable. See Figure 5-14.
- Keyboard In adapter cable. See Figure 5-15.

Both cables connect to the **Slave** Keyboard/Mouse cable. See Figure 5-9 on page 5-9.

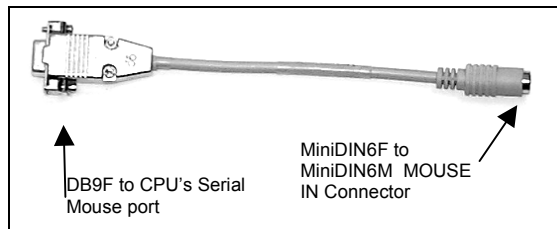


Figure 5-14 The Mouse adapter cable

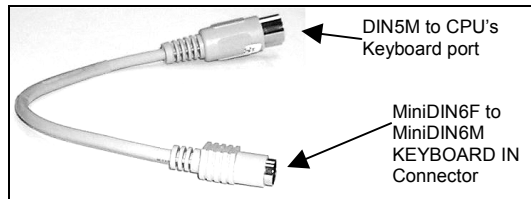


Figure 5-15 The Keyboard In adapter cable

Connecting the Mouse adapter cable

Connect the Mouse adapter cable's:

1. MiniDIN6F to the Keyboard/Mouse MiniDIN6M MOUSE IN connector.
2. DB9F to the CPU's Serial Mouse port.

Connecting the keyboard In adapter cable

Connect the Keyboard In adapter cable's:

1. MiniDIN6F to the Keyboard/Mouse MiniDIN6M KEYBOARD IN connector.
2. DIN5M to the CPU's Keyboard port.

Adapter cables for the Manager or the Slave Unit with a Local Workstation

The three cables are:

- Mouse adapter cable. See Figure 5-14 above.
- Keyboard In adapter cable. See Figure 5-15 above.
- Keyboard Out adapter cable. See Figure 5-16 below.

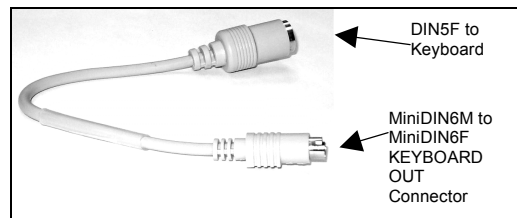


Figure 5-16 The Keyboard Out adapter cable

All three cables connect to the **Manager** or **Slave** Keyboard/Mouse In/Out cable. See Figures 5-5 and 5-12 on pages 5-5 and 5-13 respectively.

Connecting the Mouse adapter cable

Connect the Mouse adapter cable's:

1. MiniDIN6F to the Keyboard/Mouse In/Out MiniDIN6M MOUSE IN connector.
2. DB9F to the CPU's Serial Mouse port.

Connecting the Keyboard In adapter cable

Connect the Keyboard In adapter cable's:

1. MiniDIN6F to the Keyboard/Mouse In/Out MiniDIN6M KEYBOARD IN connector.
2. DIN5M CPU's Keyboard port.

Connecting the Keyboard Out adapter cable

Connect The Keyboard Out adapter cable's:

1. MiniDIN6M to the Keyboard/Mouse In/Out cable's MiniDIN6F KEYBOARD OUT connector.
2. DIN5F to the Keyboard.

Connecting the System to the Power Supply



The Card version

The **Manager** and **Slave units** draw their power via the computer's motherboard.



The Box version

The **Manager** and **Slave units** draw their power from the electricity supply via a Power adapter and Power cord.

Connecting the Power Adapter and Power Cord

1. Connect the Power Adapter's DIN4M connector to the **Slave's** Power connector.
2. Connect the Power Adapter's Power connector to the Power cord.
3. Connect the Power cord to the wall socket.

The Supervisor Phantom configuration



Figure 5-17 below shows the **Supervisor Phantom Card** system connections in detail.

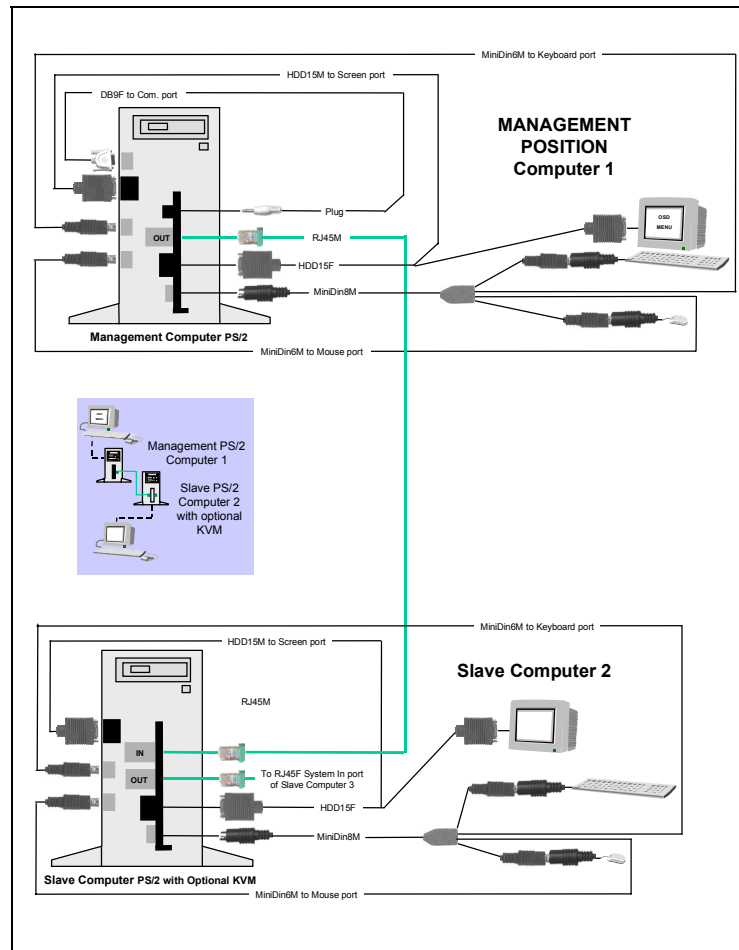


Figure 5-17 The Supervisor Phantom Card system connections



Figure 5–18 shows the **Phantom Manager Box** connections.

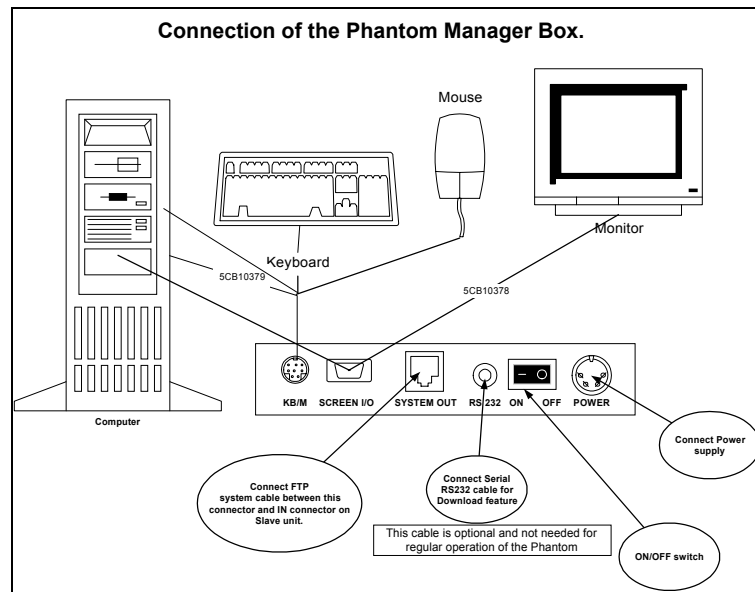


Figure 5–18 The Manager Box connections

Figure 5–19 shows the **Phantom Slave Box** connections.

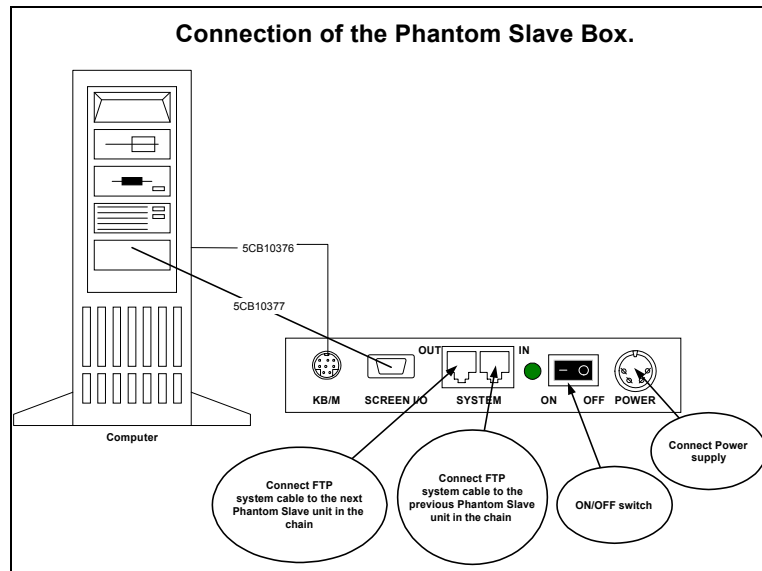


Figure 5–19 The Slave Box connections

Chapter 6: The OSD functions

You control and monitor the **Slave** computers in the **Supervisor Phantom** system through an On-Screen-Display (OSD) on the **Manager** screen. The OSD contains a number of windows which are accessed using Hot-keys. Each window has its own special functions.

Displaying the OSD

To display the OSD:

Press **Shift, Shift**. The **Main** window appears. See Figure 6-1. You access all the other windows from the **Main** window

The OSD is divided into three sections. These are:

- Name.
- Stations.
- Instructions and Hot-keys (discussed later).

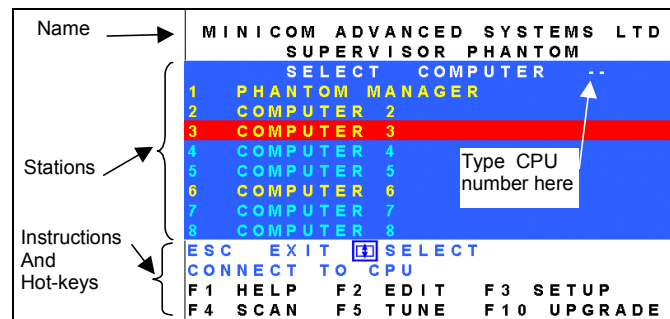


Figure 6-1 The Main window

The Name section

The Name section displays the name as illustrated in Figure 6-1.

The Stations section

The Stations section displays the computers in groups of eight (1 - 8, 9 - 16, 17 - 24, and 25 - 32).

To navigate between the groups:

Use the **Up** and **Down** Arrow keys.

Line Color codes

Each computer line can be one of three colors. The meaning of these colors is as follows:

Yellow Connected and switched on computer.

Black Connected and switched on computer with a Local Workstation attached and presently being used locally. After remaining idle for 30 seconds, it changes to **yellow**.

Blue Unconnected or switched off computer.

Selecting a Computer

You monitor or control a **Slave** computer from the **Main** window.

To select a computer:

1. Navigate to the desired computer with the **Up** and **Down** Arrow keys.

Or

In the “**SELECT COMPUTER**” line, type the computer number. See Figure 6-1.

2. Press **Enter**. The selected **Slave’s** screen replaces the **Manager’s** screen. A Confirmation tag appears showing which **Slave** computer is accessed. See Figure 6-2.

A blue rectangular box with yellow text. The text reads "2 COMPUTER 02" in a bold, sans-serif font.

Figure 6-2 The Confirmation tag

To return to the Manager screen:

Press **Shift, Shift**.

Image Adjusting

You can adjust the image of any **Slave** computer screen from the **Main** window.

To adjust the screen image:

1. Navigate to the **Slave** computer you wish to adjust.
2. Press **F5**. The screen image of the selected computer appears, together with the Image Adjusting tag. See Figure 6-3.

A blue rectangular box with yellow text. The text reads "2 COMPUTER 2" on the first line. The second line consists of a series of dots between two vertical bars, with a vertical bar at the end: "| | |". The third line shows the numbers "1 2 8" centered below the dots.

Figure 6-3 The Image Adjusting tag

3. Adjust the image by using the **Right** and **Left** Arrow keys.
4. Press **Esc**.

Note! Picture quality is relative to distance. The further away a **Slave** computer is from the **Manager** position, the lower the image quality.

The Edit Mode window

You edit data in the **Edit Mode** window.

To display the **Edit Mode** window:

Press **F2**. The words “EDIT MODE” and the relevant instructions appear, see Figure 6-4.

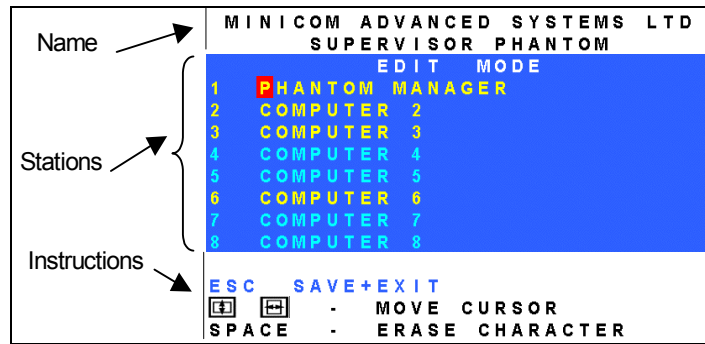


Figure 6-4 The Edit Mode window

Navigating between sections

You can edit the text in both the Name and Stations sections.

To navigate between the Name and Station sections, use the **Up** and **Down** Arrow keys.

Editing options

The editing options below apply to all OSD windows in which you can edit characters.

You can either overwrite or erase a character.

To overwrite a character:

1. Navigate to it using the Arrow keys.
2. Type the new character.

To erase a character:

1. Navigate to it using the Arrow keys.
2. Press the **Space** bar. The character disappears. A blank space replaces the erased character.

To erase a sequence of characters:

1. Navigate to the first character in the sequence.
2. Press and hold the **Space** bar down until you erase the sequence.

Editing the Name section

You can substitute the text in the Name section with up to 30 characters in each of the two lines. A space constitutes a character.

Editing the Stations section

The numbering at the start of each line is fixed, and cannot be edited.

You can substitute the data that appears after the number with up to 20 characters per line.

Editing a group of lines in the Stations section

You can edit a group of lines with the same data change.

To edit a group:

1. Navigate to the first line you want to change.
2. Type the desired change.
3. Press **End, End**. The rest of the column downwards takes on the same change.

Saving changes

To save changes in all OSD windows and return to the **Main window**:

Press **Esc**.

The Setup window

You set parameters, and configure settings, in the **Setup** window.

To display the **Setup** window:

Press **F3**. The **Setup** window with the relevant instructions and Hot-keys appears. See Figure 6-5.

MINICOM		ADVANCED		SYSTEMS		LTD
SUPERVISOR		PHANTOM				
	SCAN	DISP	KB	DRV	MOUSE	
1	030	030	PS	MS	MS	
2	030	030	PS	MS	MS	
3	030	030	PS	MS	MS	
4	030	030	PS	MS	MS	
5	030	030	PS	MS	MS	
6	030	030	PS	MS	MS	
7	030	030	PS	MS	MS	
8	030	030	PS	MS	MS	
F6 - AUTOSKIP		ON	ESC	SAVE+EXIT		
F8 - KB MODE		US	999	CONT	DISP	
F9 - HOTKEY		CTRL F12				
		TAB	CURSOR CONTROL			

Figure 6-5 The Setup window

The **Setup** window contains 6 columns, as follows:

Column	Function
Numbers	Computer numbers in groups of 8
SCAN	Scanning time period in seconds
DISP	Confirmation tag display time in seconds
KB	The keyboard mode, either PS or Unix
DRV	The mouse driver type
MOUSE	The mouse type

In the **DISP** column, you determine the amount of time the **Manager** screen displays the Confirmation tag - see Figure 6-2 - showing which **Slave** computer is being accessed.

Changing the SCAN and DISP time spans

The **SCAN** and **DISP** time spans are preset to 030 seconds. You can adjust these times to suit your needs.

To change the time span:

1. Navigate with the Arrow keys to the time span you want to change.
2. Type the desired time span.
3. Press **Esc**.

When typing over a group of three digits, the cursor automatically reverts to the first digit once you edit the third digit.

Navigating between the SCAN and DISP columns

To move horizontally, between the first digit in the **SCAN** column and the first digit in the **DISP** column:

Press **Tab**.

Or;

The **Right** and **Left** Arrow keys.

Changing the time span of a group of computers

You can change the time spans of the **SCAN** and **DISP** columns from a particular computer downwards.

To change the time span:

1. Navigate to the time span of the first computer you wish to change.
2. Type the desired change.
3. Press **End, End**. The remainder of the column takes on the same change.
4. Press **Esc**.

Removing a computer from the scanning sequence

To remove a computer from the scanning sequence:

1. Type 000 in the **SCAN** column.
2. Press **Esc**.

Constantly displaying a Slave computer

To constantly display a **Slave** computer:

1. Type 999 in the **SCAN** column.
2. Press **Esc**.

Changing the KB column

You need to set the **KB** mode to **UN** when working on a UNIX computer. Otherwise, set the **KB** column to **PS**.

To change the **KB** column from **PS** to **UN** or vice versa:

1. Place the cursor on the first character.
2. Press the **Spacebar**. The display interchanges between **PS** and **UN**.
3. Press **Esc**.

The DRV column

The **Supervisor Phantom** system can function with computers that have different operating systems, and different mouse types. Each mouse type has its own particular Mouse driver.

The **Manager** computer always has a mouse attached. This is not necessarily the case with the **Slave** computer.

The Manager computer setting

Determine the setting for the **Manager** computer in the **DRV** column by matching the computer's operating system and mouse type. See Appendix C.

The Slave computer setting

Determine the setting for the **Slave** computer in the **DRV** column by matching the operating system and mouse type of each computer in the table. See Appendix D.

Changing the setting in DRV column

To change the setting in **DRV** column:

1. Place the cursor on the first character.
2. Press the **Spacebar**. The display interchanges between the different possible settings. Continue pressing until you reach the required setting.
3. Press **Esc**.

Note! When you don't know which mouse driver is installed, set the listing in the **DRV** column to **PS**.

The MOUSE column

The **Mouse** column and the **DRV** column are interrelated. When you change the setting in the **DRV** column, the listing in the **Mouse** column will automatically change to match the **DRV** column.

Changing the OSD Display Hot-key

The default Hot-key to display the OSD, is **Shift, Shift**. You can replace this Hot-key with any of the following:

- **Ctrl, Ctrl**.
- **Ctrl, F11**.
- **Ctrl, F12**.

With a choice of four different Hot-keys, you can operate up to four OSDs from one KVM position. Each OSD will then have a different display Hot-key. This is useful for cascading systems of for example, the Supervisor MU, Pro, and Phantom.

To change the Hot-key:

1. Press **F9**. The Hot-key changes from **Shift, Shift** to **Ctrl, Ctrl**. Continue pressing until you reach the required Hot-key.
2. Press **Esc**.

Changing the Keyboard Language

The keyboard language is preset to US English. You can change it to German, or French.

To Change the Keyboard Language:

1. Press **F8** until you reach the desired language.
2. Press **Esc**.

Skipping out unconnected or switched off computers

When navigating through the list of computers, you can skip out the unconnected or switched off computers. You do this with Autoskip. By default, Autoskip is activated.

To activate or deactivate Autoskip:

Press **F6**.

Note! Autoskip will also skip any active computer set to 000 in the SCAN column.

When Autoskip is inactive and the computer being scanned is switched off, then the **Manager** screen appears dark.

Scanning Computers

You scan computers from the **Main** window.

To start scanning:

Press **F4**. During scanning a Confirmation tag appears, showing which **Slave** computer is presently displayed.

See Figure 6-6.



Figure 6-6 The Scan Confirmation tag

To stop scanning, press:

F4.

Or;

Shift, Shift.

The Help Menu window

For a list of the Hot-keys and their functions, you can access the **Help** Menu window.

To access the **Help** menu window:

Press **F1**. The **Help** menu appears. See Figure 6-7.

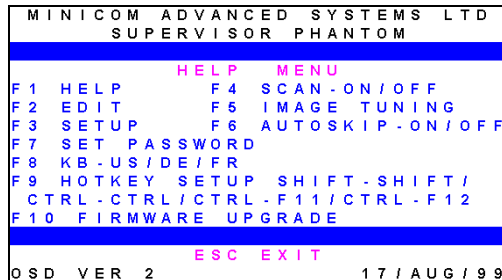


Figure 6-7 The HELP menu

Press **Esc** to exit the **Help** menu.

Closing the OSD

You close the OSD from the **Main** window.

To close the OSD:

Press **Esc** or **Enter**.

Reverting to the factory set OSD

The Administrator can revert to the factory set OSD. This involves closing and opening jumper **JP3** on the PCI **Manager** card.

To close and open jumper **JP3**:

For the Card version

1. Switch off the **Manager** computer, and disconnect the power cord and all cables.
2. Remove the cover, and extract the **Manager** card.
3. Locate Jumper **JP3** and close it. See Figure 6-8, and Figure 6-9.

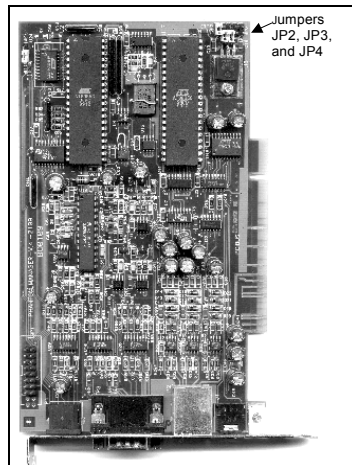


Figure 6-8 The Manager card

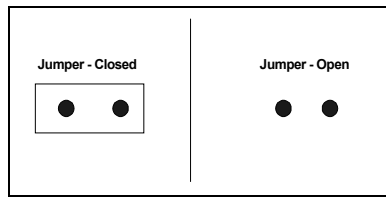


Figure 6-9 Jumper closed and open

4. Reinsert the **Manager** card and replace the cover.
5. Reconnect the power cord and all cables, and switch on.
6. Wait ten seconds. Switch off, and disconnect the power cord and all cables.
7. Remove the cover, and extract the **Manager** card.
8. Open Jumper **JP3**.
9. Reinsert the **Manager** card and replace the cover.
10. Reconnect the power cord and all cables, and switch on.

For the Box version



1. Switch off the **Manager** box and computer.
2. Disconnect the power cord and all other cables from the **Manager** box.
3. Unscrew the back of the **Manager** box.
4. Locate Jumper **JP3** and close it. See Figure 6-8, and Figure 6-9 above.
5. Replace the back of the **Manager** box.
6. Reconnect the power cord and all cables, and switch on.
7. Wait ten seconds. Switch off, and disconnect the power cord and all cables.
8. Unscrew the back of the **Manager** box.
9. Open Jumper **JP3**.
10. Reinsert the **Manager** card and replace the back of the Box.
11. Reconnect the power cord and all cables, and switch on.

Once you adjust jumper **JP3** the OSD appears as in Figure 6-1 on page 6-1.

Chapter 7: Password protecting the OSD

When you need to limit server access to specific individuals you can password protect the OSD.

There are three levels of password protection. Each level has its own particular security status. These levels are as follows:

Administrator (Status A) - Highest

The Administrator can:

- Access all Passwords and Hot-keys.
- Monitor and work on any **Slave** computer.
- Modify any Password and its status.

Supervisor (Status S) - Middle

The Supervisor can:

- Access all Hot-keys except the Password Hot-key.
- Monitor and work on any **Slave** computer.

User (Status U) - Lowest

The User can:

- Access all Hot-keys except the Password Hot-key.
- Monitor, but not work on any **Slave** computer.

You can have up to eight passwords, divided among the three security levels.

Enabling password protection

By default, password protection is disabled. Enabling password protection involves opening a jumper on the PCI **Manager** card.

To enable password protection:

For the Card version



1. Switch off the **Manager** computer; disconnect the power cord and all other cables. Remove the cover.
2. Extract the **Manager** card.
3. Locate Jumper **JP2** and open it. See Figure 7-1 and Figure 7-2.

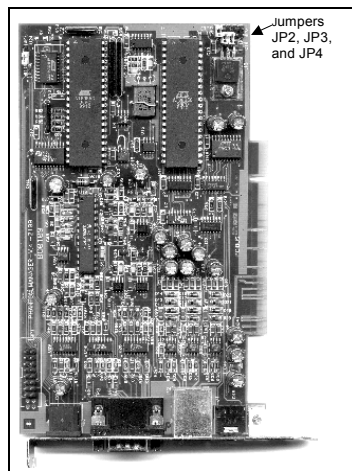


Figure 7-1 The Manager card

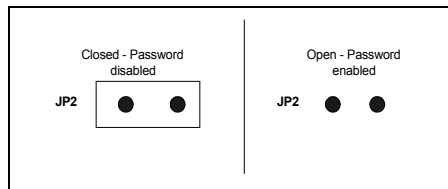


Figure 7-2 Jumper JP2

4. Replace the **Manager** card and the computer's cover.
5. Reconnect the power cord and all cables, and switch the computer on. Password protection is now enabled.

For the Box version



1. Switch off the **Manager** box and computer.
2. Disconnect the power cord and all other cables from the **Manager** box.
3. Unscrew the back of the **Manager** box.
4. Locate Jumper **JP2** and open it. See Figure 7-1 and Figure 7-2 above.
5. Replace the back of the **Manager** box.
6. Reconnect the power cord and all cables, and switch on. Password protection is now enabled.

Entering a password

Once password protection is enabled, you can only access the OSD by entering the appropriate password.

The default Administrator's password is "ADMIN". The passwords of the other two security statuses are set by the Administrator – see the paragraph below.

To access the OSD:

1. Press **Shift, Shift**. The **Enter Password** box appears. See Figure 7-3.



Figure 7-3 The Enter Password box

2. Type in the appropriate password.
3. Press **Enter**.

Setting up a password

Once the Administrator enters his password, the **Main** window of the OSD appears. In the instructions and Hot-key section “**F7 PASSWORD**” appears. See Figure 7-4.

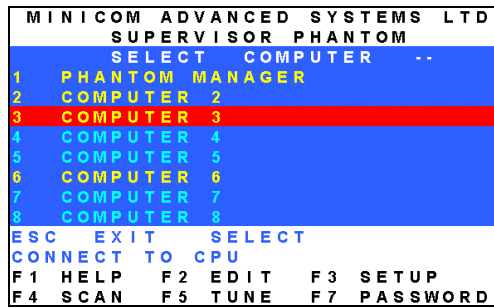


Figure 7-4 The OSD window with the F7 Hot-key

1. Press **F7**. The **Password Set Up** window appears. See Figure 7-5. The Administrator sets up passwords in this window.

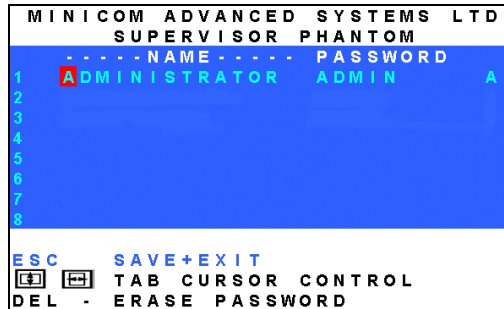


Figure 7-5 The Password Set Up window

Note! Password characters are not case sensitive, and a space can be a password character.

To set up a password:

1. Navigate to the desired line number.
2. Type:
 - (i). Login name in the **Name** column.
 - (ii). Password in the **Password** column – between 1 and 8 characters.
 - (iii). Status in the **Status** column - **A** for Administrator, **S** for Supervisor and **U** for User.
3. Press **Esc**.

Changing a password

The Administrator can change any Name, Password or Status, from the **Password Set Up** window.

To change a password:

1. Navigate to the desired line number.
2. Type the desired change.
3. Press **Esc**.

Reverting to the default password

It may happen that the Administrator forgets the password, if so, he can revert to the default password. This involves closing and opening jumper **JP4** on the **PCI Manager** card. Once you do this, the system will recognize the default password.

Closing and opening jumper JP4

To close and open jumper **JP4**:



For the Card version

1. Switch off the **Manager** computer, and disconnect the power cord and all cables.
2. Remove the cover, and extract the **Manager** card.
3. Locate Jumper **JP4** and close it. See Figure 7-1 on page 7-2 above, and Figure 7-6 below.

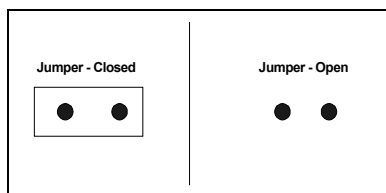


Figure 7-6 Jumper closed and open

4. Reinsert the **Manager** card and replace the cover.
5. Reconnect the power cord and all cables, and switch the computer on.
6. Wait ten seconds. Switch off, and disconnect the power cord and all cables.
7. Remove the cover, and extract the **Manager** card.
8. Open Jumper **JP4**.
9. Reinsert the **Manager** card and replace the cover.
10. Reconnect the power cord and all cables, and switch the computer on.

For the Box version



1. Switch off the computer and **Manager** box.
2. Disconnect the power cord and all other cables from the **Manager** box.
3. Remove the cover of the **Manager** box.
4. Locate Jumper **JP4** and close it. See Figure 7-1 on page 7-2 above, and Figure 7-6 above.
5. Replace the cover of the **Manager** box.
6. Reconnect the power cord and all cables, and switch the **Manager** unit on.
7. Wait ten seconds. Switch off, and disconnect the power cord and all cables.
8. Unscrew the cover of the **Manager** box.
9. Open Jumper **JP4**.
10. Replace the cover of the **Manager** Box.
11. Reconnect the power cord and all cables, and switch on.

Note! If the system fails to recognize the default password, check that Jumper **JP4** is open.

Chapter 8: Upgrading the Supervisor Phantom firmware

Keep pace with **Minicom's** constantly developing technology with **Phantom Update**. **Phantom Update** is a software program you can use to access Minicom's firmware banks. With **Phantom Update** software, upgrade the firmware for the:

- OSD.
- Manager.
- Slave.

Phantom Update enables you to add new features, and fix bugs, in a quick and efficient manner.

You can install **Phantom Update** on the **Manager** or **Slave** computer. You can also install the software on any other computer, even one not part of the **Supervisor Phantom** system.

You can obtain the **Phantom Update** software from our Technical Support Department.

System Requirements for the Phantom Update software

- Pentium 100 or higher with 8 MB RAM and 4 MB free Hard Drive space.
- Free Serial port.
- Windows 95, 98, 2000 or Windows NT 4.0 sp. (service pack) 3 or later.

Connecting the Communication cable

To download firmware, you need to connect the Communication cable. See Figure 8-1.

To connect the Communication cable:

1. Connect the Communication cable's Stereo plug to the **Phantom Manager's** Communication port.
2. Connect the Communication cable's DB9F connector to the DB9M Serial port on the CPU's rear panel.

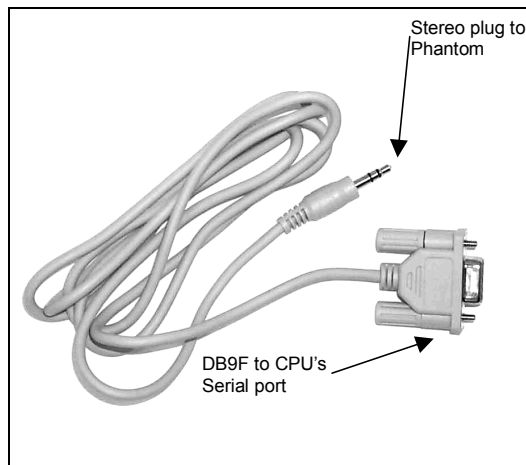


Figure 8-1 The Communication cable

Note! The length of the Communication cable determines the distance between the **Phantom Manager** and the computer on which you install the **Phantom Update**.

Installing the software

To install the **Phantom Update** software:

From a CD

1. Insert the **Phantom Update** CD. The **Phantom Update** software runs automatically.
2. Follow the on screen instructions.

From two diskettes

1. Insert diskette 1 in the floppy drive.
2. From the **Start** menu, choose **Run**. The **Run** dialog box appears.
3. Type **a:\setup** and click **OK**.
4. Follow the on screen instructions.

Starting and Configuring Phantom Update

1. From the **Start** menu, choose **Programs/Phantom Update/Phantom Update**. The **Phantom Update** window appears. See Figure 8-2.

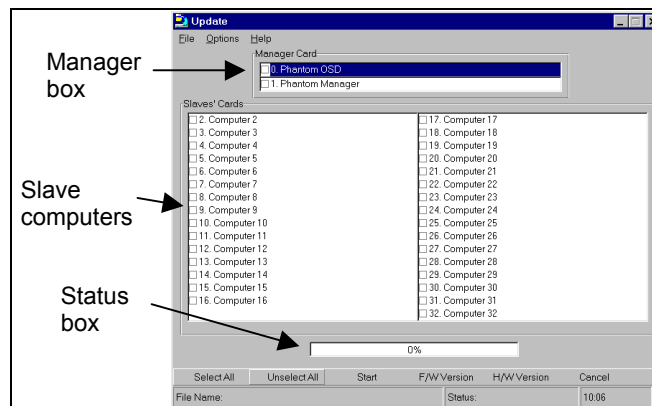


Figure 8-2 The Phantom Update window

The table below explains the functions of the buttons and boxes in the **Phantom Update** window.

Button or Box	Function
Select All	Selects all Slave computers
Unselect All	Unselects selected Slave computers
Start	Starts firmware download
F/W Version	Displays the firmware version number
H/W Version	Displays the hardware version number
Cancel	Cancels selected function
10:06	System time
Status:	Displays download status
File Name:	Name of Update file

- From the Options menu choose Com Port. The Com Port Option box appears. See Figure 8-3.

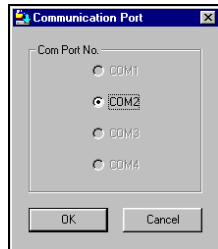


Figure 8-3 The Com Port Option box

- Choose an available Com Port and click **OK**.

Note! The Communication cable must be connected to the selected Serial port.

The F10 Upgrade Hot-key

Whenever you use **Phantom Update**, you must first activate the **Firmware Upgrade** mode on the **Phantom Manager** OSD.

To activate the **Firmware Upgrade** mode:

1. Display the OSD on the **Manager** position computer.
The default Display Hot-key is **Shift, Shift**.
2. Press **F10**. The **Firmware Upgrade** mode activates.
The Firmware Upgrade tag appears. See Figure 8-4.



Figure 8-4 The Firmware Upgrade tag

Verifying the Version Numbers

Before downloading, you must first verify which firmware and hardware versions you have.

The OSD Version Number

To verify the OSD version number:

1. Open the **Phantom Update** program.
2. Activate the **Firmware Upgrade** mode on the **Manager** OSD.
3. In the **Manager** box, check the OSD option. See Figure 8-5 below.
4. Click the F/W Version button. The version number appears in the **Manager** box.

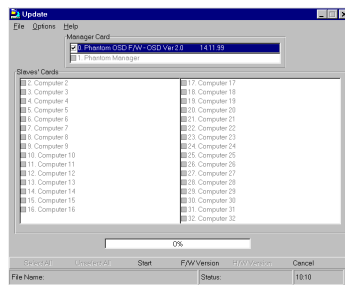


Figure 8-5 The OSD Manager option

The H/W Version button is grayed out, as there is no hardware relevant to the OSD.

The Phantom Manager version number

To verify the **Phantom Manager** version number:

1. Open the **Phantom Update** program.
2. Activate the **Firmware Upgrade** mode on the Manager OSD.
3. In the **Manager** box, check the **Phantom Manager** option.
4. Click the F/W Version button. The firmware version number appears in the **Manager** box.
5. Click the H/W Version button. The hardware version number appears in the **Manager** box.

Verifying the Slave Version Number

Before you can check a **Slave** computer, you must uncheck the **Manager** box options.

To verify the **Slave** version number:

1. Open the **Phantom Update** program.
2. Activate the **Firmware Upgrade** mode on the **Manager** OSD.

3. Check one or more of the **Slave** computers.
4. Click the F/W Version button. The firmware version number appears after the computer number.
5. Click the H/W Version button. The hardware version number appears after the computer number.

When “**Not responding**” appears, there is no computer connected, or it is switched off.

Inform **Minicom’s** Technical Support Department of the firmware and hardware versions that you presently have. They will send you the latest firmware update.

Updating the Firmware

Warning!

Never switch off any computer connected to the **Supervisor Phantom** system during the updating process.

To update the firmware:

1. Open the **Phantom Update** program.
2. Activate the **Firmware Upgrade** mode on the Manager OSD.
3. In the **Phantom Update** window, check the appropriate option in the **Manager** box or the desired **Slave** computer or computers.
4. From the **File** menu, choose **Open**. The **Open** box appears. See Figure 8-6.
5. Navigate to the folder that contains the firmware update file. You may only see the files that match the file selection mask.

The mask name e.g. Ph_slv-v21230100_943A_E.hex contains the following information:

- Ph_slv - **Slave** mask.
- v21 - Version 2.1.
- 230100 - Date 23rd January 2000.

A mask for the **Manager** begins with - Ph_mst.

A mask for the OSD begins with - Ph_osd.

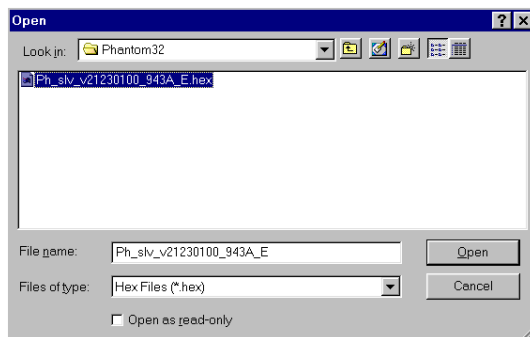


Figure 8-6 The Mask for a Slave computer

6. Open the file.
7. Click **Start**. The **Phantom Update** downloads the firmware.
8. Check that the updated version number is displayed.

Phantom Update generates one log file per session that displays a chronological list of actions. You can read the log file in any ASCII text editor.

The log file is located in the **Phantom Update** installation folder.

Troubleshooting Tips

When using **Phantom Update** software you may sometimes get a Communication Error message.

The Manager unit

When updating the **Manager** unit and a Communication Error message appears, do the following:

1. Check that the Communication cable's Stereo plug is connected to the **Manager's** Communication port.
2. Check that the Communication cable's DB9F connector is connected to the DB9M Serial port on the CPU's rear panel.
3. Restart the download process from page 8-3, and make sure the Firmware Upgrade mode is activated.

Electricity failure

When the electricity fails while updating the **Phantom Manager** or OSD firmware, do the following:

1. Switch off the **Phantom Manager** computer and disconnect the power cord.
2. Open the cover, extract the **Phantom Manager** card and Close Jumper **JP7**. See Figure 8-7.

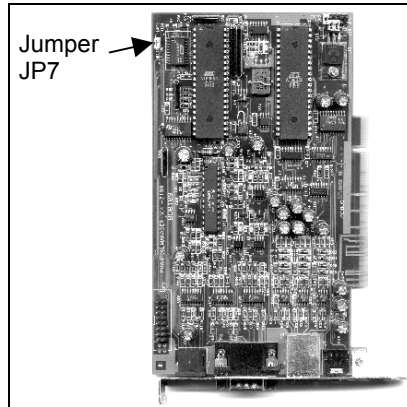


Figure 8-7 Jumper JP7

3. Reinsert the **Manager** card, close the cover, and reconnect the power cord.
4. Switch on the computer. Damage to the **Phantom** firmware prevents you from displaying the OSD.
5. Start the **Phantom Update** program, and carry out the download process again. Where you were updating the OSD **AND** the **Manager** firmware, you must first update the OSD.

Since Jumper **JP7** is closed the **Phantom Update** program does not show the firmware version number after completing the download.

6. Switch off the **Phantom Manager** computer and disconnect the power cord.
7. Open the cover, extract the **Phantom Manager** card and open Jumper **JP7**.
8. Reinsert the **Manager** card, close the cover, and reconnect the power cord.
9. Check the OSD and make sure the system functions properly.

10. In the **Phantom Update** program, check that the firmware version number appears.

Contact our Technical Support department, if the OSD will not display, or the firmware version number fails to appear.

The Slave unit

When updating a **Slave** unit and a Communication Error message appears, do the following:

1. Check that the Communication cable's Stereo plug is connected to the **Manager's** Communication port.
2. Check that the Communication cable's DB9F connector is connected to the DB9M Serial port on the CPU's rear panel.
3. Check that the System cable, is connected.
4. Restart the download process from page 8-3, AND make sure the Firmware Upgrade mode is activated.

Electricity failure or a rattling noise

When the electricity fails while updating the **Slave** firmware, or if you hear a rattling noise from the relay on the **Slave** cards, do the following:

1. Switch off and disconnect the **Slave** computer from the power supply.
2. Open the cover of the **Slave** computer extract the **Slave** card and close Jumper **JP9**. See Figure 8-8.

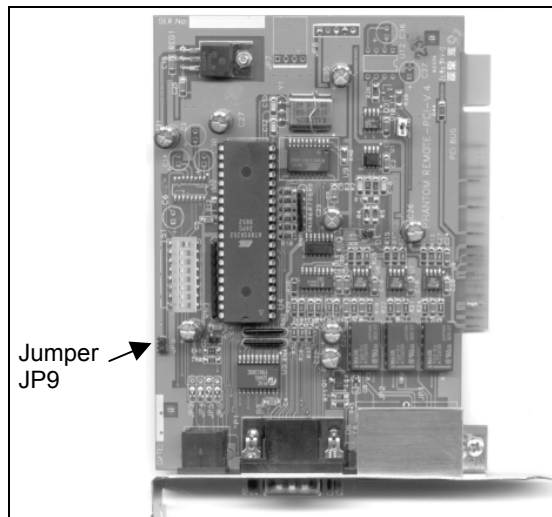


Figure 8-8 Jumper JP9

3. Reinsert the **Slave** card, close the cover, reconnect the power cord, and switch on the computer.
4. Start the **Phantom Update** program, and carry out the download process again for all the **Slave** computers.

Since Jumper **JP9** is closed the **Phantom Update** program does not show the firmware version number after completing the download.

5. Switch off the **Slave** computer and disconnect the power cord.
6. Open the cover, extract the **Slave** Card and open Jumper **JP9**.
7. Reinsert the **Slave** card, close the cover, and reconnect the power cord.
8. Check that the system functions properly.

9. In the **Phantom Update** program, check that the firmware version number appears.

Contact our Technical Support department, if the system fails to function properly, or the firmware version number fails to appear.

Appendix A: Technical Specifications

Resolution

Up to 1280 x 1024 pixels

Refresh rate

75 Hertz

Transmission distance

From Manager computer to last Slave computer in the chain: up to 110m/360ft
--

System requirements

CPUs	IBM AT, PS, and their 100% compatibles
Video	SVGA, VGA, or XGA

PCI Card dimensions

Manager	167.64 mm x 106.68 mm
Slave	131.19 mm x 102.24 mm

Supervisor Phantom Box

	<u>Dimensions</u>	<u>Weight</u>
Manager	173mm x 183mm x 25mm	800 grams
Slave	173mm x 146mm x 25mm	600 grams

Power

Manager	+ 5 Volts / 250 mA - 12 Volts / 120 mA
Slave	+ 5 Volts / 250 mA - 12 Volts / 100 mA

System cable specification

RJ-45M/RJ-45M Connector Ethernet 100 base-T4 CAT5 FTP Cable
--

Appendix B: Supervisor Phantom Product Line

The Card Version

Order Code	Details & Description
0SU42003	Supervisor Phantom Starter Kit PS 1 Manager Unit + 3 Slave Units

0SU42001	Supervisor Phantom Manager Card PS
1SU42001	Supervisor Phantom Manager Unit
5CB10353	VGA I/O Cable
5CB10382	PS I/O KB/M Cable
5CB20363	Phantom Terminator
5AC00160	In Line Coupler
5CB10061	Communication Cable

0SU41003	Supervisor Phantom Manager/LWS AT Kit
1SU41002	Mouse Adapter Cable
5CB10119	KB IN Adapter Cable DIN5M-MiniDIN6F
5CB10243	KB OUT Adapter Cable DIN5F-MiniDIN6M

0SU41001	Supervisor Phantom Slave Card PS
1SU41001	Supervisor Phantom Slave Unit
5CB40349	VGA I/O Cable
5CB10381	PS KB/M IN Cable

0SU41005	Supervisor Phantom Slave AT Kit
1SU41002	Mouse Adapter Cable
5CB10119	KB IN Adapter Cable DIN5M-MiniDIN6F

Supervisor Phantom Product Line

0SU41002	Supervisor Phantom Card PS Local Workstation Kit
5CB10353	VGA I/O Cable
5CB10382	PS I/O KB/M Cable

The Box Version

Order Code	Details and Description
0SU52001	Supervisor Phantom Manager 220V PS
0SU52002	Supervisor Phantom Manager 110V PS
1SU52001	Supervisor Phantom Manager Unit
5CB10378	VGA I/O Cable
5CB10379	PS I/O KB/M Cable
5CB20363	Phantom Terminator
5AC00160	In Line Coupler
5CB10061	Communication Cable

Supervisor Phantom Power Adapter Connectors	
5PS20017	Power Adapter 110V – USA
5CB60304	Power Cord 110V – USA
5PS10016	Power Adapter 230V - Israel, Europe, UK, Switzerland
5CB60023	Power Cord 230V – Israel
5CB60022	Power Cord 230V – Europe
5CB60337	Power Cord 230V – UK
5CB60312	Power Cord 230V– Switzerland

0SU41003	Supervisor Phantom AT Kit for Manager
1SU41002	Mouse Adapter Cable
5CB10119	KB IN Adapter Cable DIN5M-MiniDIN6F
5CB10243	KB OUT Adapter Cable DIN5F-MiniDIN6M

Supervisor Phantom Product Line

0SU51001	Supervisor Phantom Slave 220V PS
0SU51002	Supervisor Phantom Slave 110V PS
1SU51001	Supervisor Phantom Slave Unit
5CB10377	VGA I/O Cable
5CB10376	PS KB/M IN Cable

Supervisor Phantom Power Adapter Connectors	
5PS20017	Power Adapter 110V– USA
5CB60304	Power Cord 110V – USA
5PS10016	Power Adapter 230V – Israel, Europe, UK, Switzerland
5CB60023	Power Cord 230V – Israel
5CB60022	Power Cord 230V – Europe
5CB60337	Power Cord 230V – UK
5CB60312	Power Cord 230V– Switzerland

0SU41005	Supervisor Phantom AT Kit for Slave
1SU41002	Mouse Adapter Cable
5CB10119	KB IN Adapter Cable DIN5M-MiniDIN6F

0SU41002	Supervisor Phantom Local Workstation Kit PS
5CB10378	VGA I/O Cable
5CB10379	PS I/O KB/M Cable

0SU41005	Supervisor Phantom AT Kit for Slave with Local Workstation
1SU41002	Mouse Adapter Cable
5CB10119	KB IN Adapter Cable DIN5M-MiniDIN6F
5CB10243	KB OUT Adapter Cable DIN5F-MiniDIN6M

Appendix C: The Manager computer DRV setting

Operating System	Mouse	Mouse Driver	DRV Setting
MS DOS	PS/2	PS/2	PS
MS DOS	MS Intellimouse	PS/2	PS
MS DOS	Logitech Wheel	PS/2	PS
MS DOS	IBM Scroll mouse	PS/2	PS
MS DOS	Genius Net Mouse	PS/2	PS
Windows 3.1	PS/2	PS/2	PS
Windows 3.1	MS Intellimouse	PS/2	PS
Windows 3.1	Logitech Wheel	PS/2	PS
Windows 3.1	IBM Scroll mouse	PS/2	PS
Windows 3.1	Genius Net Mouse	PS/2	PS
Windows 95	PS/2	PS/2	PS
Windows 95	MS Intellimouse	PS/2	PS
Windows 95	Logitech Wheel	PS/2	PS
Windows 95	IBM Scroll mouse	PS/2	PS
Windows 95	Genius Net Mouse	PS/2	PS
Windows 95	MS Intellimouse	MS Intelli	MS
Windows 95	Logitech Wheel	Logitech	LG
Windows 95	IBM Scroll mouse	IBM	IB
Windows 95	Genius Net Mouse	Genius	GN
Windows 98	PS/2	Built-in	PS
Windows 98	MS Intellimouse	Built-in	MS
Windows 98	Logitech Wheel	Built-in	MS
Windows 98	IBM Scroll mouse	Built-in	PS
Windows 98	Genius Net Mouse	Built-in	PS
Windows 98	MS Intellimouse	MS Intelli	MS

Operating System	Mouse	Mouse Driver	DRV Setting
Windows 98	Logitech Wheel	Logitech	LG
Windows 98	IBM Scroll mouse	IBM	IB
Windows 98	Genius Net Mouse	Genius	GN
Windows 2000	PS/2	Built-in	PS
Windows 2000	MS Intellimouse	Built-in	MS
Windows 2000	Logitech Wheel	Built-in	MS
Windows 2000	IBM Scroll mouse	Built-in	PS
Windows 2000	Genius Net Mouse	Built-in	PS
Windows 2000	MS Intellimouse	MS Intelli	MS
Windows 2000	Logitech Wheel	Logitech	LG
Windows 2000	IBM Scroll mouse	IBM	IB
Windows 2000	Genius Net Mouse	Genius	N/A
Windows NT4	PS/2	Built-in	PS
Windows NT4	MS Intellimouse	Built-in	PS*
Windows NT4	Logitech Wheel	Built-in	PS
Windows NT4	IBM Scroll mouse	Built-in	PS
Windows NT4	Genius Net Mouse	Built-in	PS
Windows NT4	MS Intellimouse	MS Intelli	MS
Windows NT4	Logitech Wheel	Logitech	LG
Windows NT4	IBM Scroll mouse	IBM	IB
Windows NT4	Genius Net Mouse	Genius	GN
UNIX, LINUX	PS/2	Built-in	PS
UNIX, LINUX	MS Intellimouse	Built-in	PS
UNIX, LINUX	Logitech Wheel	Built-in	PS

The Manager computer DRV setting

Operating System	Mouse	Mouse Driver	DRV Setting
UNIX, LINUX	IBM Scroll mouse	Built-in	PS
UNIX, LINUX	Genius Net Mouse	Built-in	PS
MAC with MAC Adapter	Only PS/2 mouse supported		
SUN with SUN Adapter	Only PS/2 mouse supported		
PC Adapter	Only PS/2 mouse supported		

* - Depends on the type of the mouse installed with Windows NT4.

N/A – No driver was available at the time of writing.

Appendix D: The Slave computer DRV setting

Operating System	Local Mouse type	Mouse Driver	DRV Setting
DOS	Not connected	Built-in	PS
Windows 3.1	Not connected	Built-in	PS
Windows 95	Not connected	Built-in	PS
Windows 98	Not connected	Built-in	MS
Windows NT4	Not connected	Built-in	PS, MS*
Windows 2000	Not connected	Built-in	MS
UNIX, LINUX	Not connected	Built-in	PS
MAC with MAC Adapter	Not connected	Built-in	PS
SUN with SUN Adapter	Not connected	Built-in	PS
PC Adapter	Not connected	Built-in	PS
DOS	PS/2 mouse	Built-in	PS
Windows 3.1	PS/2 mouse	Built-in	PS
Windows 95	PS/2 mouse	Built-in	PS
Windows 98	PS/2 mouse	Built-in	PS
Windows NT4	PS/2 mouse	Built-in	PS
Windows 2000	PS/2 mouse	Built-in	PS
UNIX, LINUX	PS/2 mouse	Built-in	PS
MAC with MAC Adapter	PS/2 mouse	Built-in	PS
SUN with SUN Adapter	PS/2 mouse	Built-in	PS
PC Adapter	PS/2 mouse	Built-in	PS
DOS	MS Intellimouse	Built-in	PS
Windows 3.1	MS Intellimouse	Built-in	PS

Operating System	Local Mouse type	Mouse Driver	DRV Setting
Windows 95	MS Intellimouse	Built-in	PS
Windows 98	MS Intellimouse	Built-in	MS
Windows NT4	MS Intellimouse	Built-in	PS, MS*
Windows 2000	MS Intellimouse	Built-in	MS
UNIX, LINUX	MS Intellimouse	Built-in	PS
DOS	Logitech Wheel	N/A	PS
Windows 3.1	Logitech Wheel	N/A	PS
Windows 95	Logitech Wheel	Logitech	LG
Windows 98	Logitech Wheel	Logitech	LG
Windows NT4	Logitech Wheel	Logitech	LG
Windows 2000	Logitech Wheel	Logitech	LG
DOS	IBM Scroll mouse	N/A	PS
Windows 3.1	IBM Scroll mouse	N/A	PS
Windows 95	IBM Scroll mouse	IBM	IB
Windows 98	IBM Scroll mouse	IBM	IB
Windows NT4	IBM Scroll mouse	IBM	IB
Windows 2000	IBM Scroll mouse	IBM	IB
DOS	Genius Net Mouse	Genius	PS
Windows 3.1	Genius Net Mouse	Genius	PS
Windows 95	Genius Net Mouse	Genius	GN
Windows 98	Genius Net Mouse	Genius	GN
Windows NT4	Genius Net Mouse	Genius	GN
Windows 2000	Genius Net Mouse	Genius	GN

* - Depends on the type of the mouse installed with Windows NT4.

N/A – No driver was available at the time of writing.

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